



DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)
BOARD AND CODE ADMINISTRATION DIVISION

NOTICE OF ACCEPTANCE (NOA)

MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION

11805 SW 26 Street, Room 208
Miami, Florida 33175-2474
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www.miamidade.gov/economy

The Garland Company, Inc.
3800 East 91st Street
Cleveland, OH 44105-2197

SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County RER - Product Control Section to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Section (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. RER reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Section that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the Florida Building Code including the High Velocity Hurricane Zone of the Florida Building Code.

DESCRIPTION: Garland SA Modified Bitumen Roof System Over Lightweight Concrete Deck

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, city, state and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

ADVERTISEMENT: The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA renews and revises NOA No. 15-0508.03 and consists of pages 1 through 6.

The submitted documentation was reviewed by Jorge L. Acebo.



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ROOFING ASSEMBLY NOTICE OF ACCEPTANCE

Category: Roofing
Sub-Category: Self Adhered Modified Bitumen
Material: SBS
Deck Type: Lightweight Concrete
Maximum Design Pressure: -135 psf.

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

TABLE 1

<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>
HPR SA FR Base Sheet	39" x 51'	ASTM D 6163	SBS modified, fiberglass reinforced self-adhered base sheet.
StressPly SA FR Mineral	39" x 34'8"	ASTM D 6163, Grade G	SBS modified, fire retardant, fiberglass reinforced, mineral surfaced, self-adhering membrane.
GarMesh	6" x 150' 12" x 150'	ASTM D 1668	SBR coated woven fiberglass reinforcing membrane.
Flashing Bond	5 gallon	ASTM D 4586	Trowel grade, asphalt based roofing mastic for use in repair and patching against leaks in built-up asphalt roofs.
Silver-Flash	5 gallon	ASTM D 4586	Trowel grade, asphalt based roofing mastic for use in repair and patching against leaks in built-up asphalt roofs.
Weatherking Flashing Adhesive	5, 55 gallon	ASTM D 3019, Type III	Cold process roof flashing adhesive.
Garla-Brite	5 gallon	ASTM D 2824, Type I	Aluminum roof coating.
WeatherScreen	5, 55 gallon	ASTM D 4479, Type I	Asbestos-free, heavy-bodied, fiber-reinforced, fire-rated asphalt roof coating.
Energizer K Plus FR	5, 55 gallon	ASTM D 4479, Type I	Multipurpose, rubberized, liquid waterproofing membrane.
Green-Lock Membrane Adhesive	5 gallon	Proprietary	Cold process roof coating and adhesive.
Garla-Prime	5, 55 gallon	ASTM D 41	Non-fibered, quick drying asphalt roof primer
Garla-Prime WB	5, 55 gallon	ASTM D 41	Non-fibered, quick drying asphalt roof primer
Silver-Shield	5, 55 gallon	ASTM D 2824, Type III	High solids, aluminized roof coating.
Insul-Lock HR	1.5 liters	Proprietary	Polyurethane two component high rise insulation adhesive
Pyramic	5, 55 gallon	Proprietary	White acrylic reflective roof coating
Solex	5, 55 gallon	Proprietary	White kynar Reflective roof coating

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APPROVED INSULATIONS:**TABLE 2**

<u>Product Name</u>	<u>Product Description</u>	<u>Manufacturer (With Current NOA)</u>
SECUROCK Gypsum-Fiber Roof Board	Gypsum board	USG Corp.

APPROVED FASTENERS:**TABLE 3**

<u>Fastener Number</u>	<u>Product Name</u>	<u>Product Description</u>	<u>Dimensions</u>	<u>Manufacturer (With Current NOA)</u>
1.	Trufast FM-90 Base Sheet Fastener	Base ply fastening systems for lightweight concrete decks.		Altenloh, Brinck & Co. U.S., Inc.

EVIDENCE SUBMITTED:

<u>Test Agency</u>	<u>Test Identifier</u>	<u>Description</u>	<u>Date</u>
Certified Testing Laboratories	CTLA 114RA	TAS 114-J	09/17/09
Momentum Technologies, Inc.	EX22B7AR	ASTM D6163	08/30/07
	EX22B7A	ASTM D6163	04/11/07
	AX18C9A	ASTM D6163	07/30/09
	AX18C9B	ASTM D6163	07/30/09
RCMA Americas, Inc.	JX07H5B	ASTM D6163	08/23/15
	JX28H5A	ASTM D6163	07/20/16
Trinity ERD	G31970.05.10-R1	ASTM D4798 / TAS 110	09/23/13
	G17060.10.09-R1	TAS 114-D	10/14/09
Factory Mutual Research Corporation	3032021	FM 4470	8/25/08
UL LLC	R8384	UL 790	03/05/12

DECK STRESS ANALYSIS CALCULATIONS/REPORTS

<u>Engineer/Agency</u>	<u>Identifier</u>	<u>Assemblies:</u>	<u>Date</u>
Robert Nieminen, P.E.	Letter	E	07/24/15



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APPROVED ASSEMBLIES

Membrane Type:	SBS
Deck Type 4I:	Lightweight Concrete, Insulated
Deck Description:	Minimum 265 psi, Celcore MF Cellular concrete with Celcore HS Rheology Modifying Admixture is poured over structural concrete and Celcore PVA Curing Compound, sprayed applied, at a minimum rate of 0.5 gal/sq
System Type A:	One or more layers of insulation adhered with approved adhesive

All General and System Limitations apply.

Deck: 2500 psi structural concrete or concrete plank.

One or more layers of the following insulations:

<u>Insulation Layer</u>	<u>Insulation Fasteners</u>	<u>Fastener Density/ft²</u>
SECUROCK Gypsum-Fiber Roof Board Minimum 1/4" thick	N/A	N/A

Note: All insulation shall be adhered with Insul-Lock HR Adhesive in beads spaced 6" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Primer: (Optional)	SECUROCK Gypsum-Fiber Roof Board shall be primed with ASTM D41 primer prior to the application of base sheet.
Base/Ply Sheet:	One or more plies of HPR SA FR Base Sheet, self adhered onto insulation.
Membrane:	One ply of StressPly SA FR Mineral, self adhered onto base/ply sheet.
Surfacing: (Optional)	Apply one of the below or any approved coatings: <ol style="list-style-type: none">1. Minimum two coats of Garla-Brite applied at min. 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.2. Green-Lock Membrane Adhesive applied at min 3-5 gal./sq. with roofing gravel applied at 400 lb./sq.
Maximum Design Pressure:	-92.5 psf. (See General Limitation #9.)



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Membrane Type:	SBS
Deck Type 4:	Lightweight Concrete, Non-insulated
Deck Description	Minimum 360 psi, 38 – 42 pcf wet cast density; 1/8” thick slurry of Celcore MF Cellular concrete with Celcore HS Rheology Modifying Admixture is poured over the steel deck. Min 1” thick Insulfoam EPS holey board is placed, in a brick-like pattern, into the slurry, followed by a minimum 380 psi, minimum 2” thick layer of Celcore MF Cellular concrete with Celcore HS Rheology Modifying Admixture. The following day a Celcore PVA Curing Compound is sprayed applied at a minimum rate of 0.5 gallons per 100 ft².
System Type E:	Base sheet mechanically fastened.
Deck:	22 ga., Type BV, Grade 33 steel deck attached to supports spaced maximum 5 ft. o.c. with ½” puddle welds at the bottom of each corrugation. Steel deck side laps attached 15” o.c. with ITW-Buildex fasteners between supports. This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submittted Table.
All General and System Limitations apply.	
Base Sheet:	One ply of HPR SA FR Base Sheet, mechanically attached using Trufast FM-90 Base Sheet Fastener spaced 6” o.c. in a 4” wide lap and 6” o.c. in four evenly spaced rows between the laps. Note: Stress plates shall be primed with ASTM D41 primer.
Ply Sheet:	One or more plies of HPR SA FR Base Sheet, self adhered onto base sheet lapped 4”.
Membrane:	One ply of StressPly SA FR Mineral, self adhered onto ply sheet lapped 4”.
Surfacing: (Optional)	Apply one of the below or any approved coatings: <ol style="list-style-type: none"> 1. Minimum two coats of Garla-Brite applied at min. 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq. 2. Green-Lock Membrane Adhesive applied at min 3-5 gal./sq. with roofing gravel applied at 400 lb./sq.
Maximum Design Pressure:	-135 psf. (See General Limitation #7)



LIGHTWEIGHT CONCRETE DECK SYSTEM LIMITATIONS:

1. If mechanical attachment to the structural deck through the lightweight insulating concrete is proposed, a field withdrawal resistance testing shall be performed to determine equivalent or enhanced fastener patterns and density. All testing and fastening design shall be in compliance with Testing Application Standard TAS 105 and Roofing Application Standard RAS 117; calculations shall be signed and sealed by a Florida Registered Engineer, Architect, or Registered Roof Consultant.
2. For steel deck application where specific deck construction is not referenced: The deck shall be a minimum 22 gage attached with 5/8" puddle welds with weld washers at every flute with maximum deck spans of 5 ft. o.c.
3. For Systems where specific lightweight insulating concrete is referenced consult current lightweight insulating concrete NOA for specific deck construction and limitations. For systems where specific lightweight insulating concrete is not referenced, the minimum design mix shall be a minimum of 300 psi.

GENERAL LIMITATIONS:

1. Fire classification is not part of this acceptance, refer to a current Approved Roofing Materials Directory for fire ratings of this product.
2. Insulation may be installed in multiple layers. The first layer shall be attached in compliance with Product Control Approval guidelines. All other layers shall be adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq., or mechanically attached using the fastening pattern of the top layer
3. All standard panel sizes are acceptable for mechanical attachment. When applied in approved asphalt, panel size shall be 4' x 4' maximum.
4. An overlay and/or recovery board insulation panel is required on all applications over closed cell foam insulations when the base sheet is fully mopped. If no recovery board is used the base sheet shall be applied using spot mopping with approved asphalt, 12" diameter circles, 24" o.c.; or strip mopped 8" ribbons in three rows, one at each sidelap and one down the center of the sheet allowing a continuous area of ventilation. Encircling of the strips is not acceptable. A 6" break shall be placed every 12' in each ribbon to allow cross ventilation. Asphalt application of either system shall be at a minimum rate of 12 lbs./sq.

Note: Spot attached systems shall be limited to a maximum design pressure of -45 psf.

5. Fastener spacing for insulation attachment is based on a Minimum Characteristic Force (F') value of 275 lbf., as tested in compliance with Testing Application Standard TAS 105. If the fastener value, as field-tested, are below 275 lbf. insulation attachment shall not be acceptable.
6. Fastener spacing for mechanical attachment of anchor/base sheet or membrane attachment is based on a minimum fastener resistance value in conjunction with the maximum design value listed within a specific system. Should the fastener resistance be less than that required, as determined by the Building Official, a revised fastener spacing, prepared, signed and sealed by a Florida registered Professional Engineer, Registered Architect, or Registered Roof Consultant may be submitted. Said revised fastener spacing shall utilize the withdrawal resistance value taken from Testing Application Standards TAS 105 and calculations in compliance with Roofing Application Standard RAS 117.
7. Perimeter and corner areas shall comply with the enhanced uplift pressure requirements of these areas. Fastener densities shall be increased for both insulation and base sheet as calculated in compliance with Roofing Application Standard RAS 117. Calculations prepared, signed and sealed by a Florida registered Professional Engineer, Registered Architect, or Registered Roof Consultant **(When this limitation is specifically referred within this NOA, General Limitation #9 will not be applicable.)**
8. All attachment and sizing of perimeter nailers, metal profile, and/or flashing termination designs shall conform with Roofing Application Standard RAS 111 and applicable wind load requirements.
9. The maximum designed pressure limitation listed shall be applicable to all roof pressure zones (i.e. field, perimeters, and corners). Neither rational analysis, nor extrapolation shall be permitted for enhanced fastening at enhanced pressure zones (i.e. perimeters, extended corners and corners). **(When this limitation is specifically referred within this NOA, General Limitation #7 will not be applicable.)**
10. All products listed herein shall have a quality assurance audit in accordance with the Florida Building Code and Rule 61G20-3 of the Florida Administrative Code.

END OF THIS ACCEPTANCE

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